Evolutionary Animal Ecology, University of Bayreuth (Germany)

PhD position in Evolutionary Ecology: Parental Care and Microbial Control in Burying Beetles

We are seeking a highly motivated PhD candidate (f/m/d) to **investigate how parental care enables *Nicrophorus* burying beetles to control beneficial and harmful microbial communities** during family life. This three-year position is part of an ERC-funded project exploring the socioecology of animal-microbe interactions, focusing on how interactions between animals and microbes shape – and are shaped by – animal social behaviors.

The Challenge. Animals continuously interact with a vast array of harmful and beneficial microbes, and natural selection has shaped sophisticated strategies enabling them to manipulate these interactions. However, we still know little about the role of animal social behaviors in exerting such host control. Burying beetles are ideally suited to tackle this issue, because they show complex social behaviors (parental care) and intimately interact with both beneficial symbionts and harmful environmental microbes during their social (family) life. In this project, we will examine how different parental care strategies (i) enable beetles to mitigate the threat posed by harmful microbes, (ii) affect the transmission of beneficial symbionts to offspring, and (iii) vary across beetle species in their fitness effects and role in host control. The interdisciplinary project will involve an exciting combination of behavioral observations, laboratory and field experiments, as well as the profiling of microbial communities via metabarcoding.

Your Profile. We are looking for a highly motivated candidate with: ● A Master's degree (or equivalent) in evolutionary ecology, microbiome science, or a related field. ● A strong interest in social evolution and animal-microbe interactions. ● Prior experience with behavioral experiments and community profiling (desired but not required). ● Proficiency in biostatistics (R) or a high motivation to acquire and improve bioinformatic skills. ● The ability to work both independently and collaboratively in a team. ● Good written and spoken English skills.

What We Offer. ● A fully funded 3-year PhD position within an ERC-funded project. Remuneration is based on the German TV-L E13 pay scale [65%] (gross salary: 3009€ per month) and includes social benefits such as health insurance and pension contributions (link). ● A cutting-edge interdisciplinary research ecosystem at the University of Bayreuth, which has recently been ranked in the top 5 percent of young universities worldwide (link). ● A vibrant and supportive research environment in a newly established team, hosted at a department with extensive experience in insect rearing, behavioral experiments, and molecular analyses (link). ● Access to state-of-the-art facilities and equipment for behavioral and microbiome research. ● Funding for conference participation and professional training as well as opportunities for national and international collaboration. ● Living in Bayreuth, a small but bustling university town with a rich history nestled in scenic Upper Franconia, featuring numerous opportunities for outdoor activities and cultural exploration (link).

How to Apply. Applications should include: ● A cover letter (1-2 pages) describing your research interests, motivation, and relevant work experience. ● A detailed CV, including your methodological skillset, B.Sc. and M.Sc. grades, and publications (if any). ● A summary of the Master thesis (max. 500 words). ● Names and email addresses of 2-3 academic scholars who agreed to serve as a reference.

Apply by May 16, 2025, by sending your application as a single PDF to Jos.Kramer@uni-bayreuth.de with the subject: "PhD Application – Parental Care vs. Microbes". **The ideal starting date is September 2025.** The University of Bayreuth is committed to promoting diversity and equal opportunities. We encourage applications from all qualified individuals, regardless of background. The working language in our group is English.

For more information, feel free to reach out informally: Jos.Kramer@uni-bayreuth.de.